I CLAIM:

1. A method for assessing the risk of transplantation rejection in a recipient host comprising the following steps:

(a) determining the HLA-DR of the recipient and the HLA-DR of the donor and determining if the recipient and donor are DR mismatched;

(b) assaying for the presence of activated T-lymphocytes in the recipient;

(c) assaying for the presence of circulating IgG anti-HLA Class II antibodies in the serum of the recipient;

wherein the presence of activated T-lymphocytes in the recipient and the presence of circulating IgG anti-HLA Class II antibodies in a DR mismatched recipient indicates a high risk of transplantation rejection.

2. The method of claim 1 wherein the recipient host has received a tissue allograft

3. The method of claim 1 wherein the recipient host has received a heart transplant.

4. The method of claim 1 wherein the HLA-DR of the recipient is determined using a microcytotoxicity assay.

5. The method of claim 1 wherein the HLA-DR of the recipient is determined using a mixed lymphocyte reaction.

6. The method of claim 1 wherein the HLA-DR of the recipient is determined using a polymerase chain reaction.

7. The method of claim 1 wherein the presence of antigen activated T-lymphocytes is measured using a lymphocyte growth assay.

8. A kit for detecting the presence of IgG antibody directed toward major histocompatability complex Class II antigen, comprising one or more different major histocompatibility complex Class II antigens or epitopes thereof linked to a solid phase, and a means for detecting IgG antibody bound to said antigens or epitopes.

9. The kit according to claim 8 wherein the means for detecting IgG antibody is a detectably labeled anti-human IgG antibody.

10 A kit for detecting the presence of IgG antibody directed toward major histocompatiblity complex Class II antigen, comprising complement and a denaturing agent for use in a microcytotoxicity assay.

11. The kit according to claim 10 further comprising cells bearing one or a plurality of different major histocompatiblity complex Class II antigens.

12. A kit for detecting the presence of IgG antibody directed toward major histocompatibility complex Class II antigen, comprising a fluorescently labeled anti-IgG antibody and cells bearing one or a plurality of different major histocompatibility complex Class II antigens, for use in a flow cytometry assay.

13. The kit according to claim 8 further comprising components which detect lymphocyte proliferation.

14. The kit according to claim 13 comprising an agent which induces lymphocyte proliferation and an agent which detects lymphocyte proliferation.

15. The kit according to claim 14 where the agent which induces lymphocyte proliferation is interleukin-2.

16. The kit according to claim 14 where the agent which induces lymphocyte proliferation is one or a plurality of different majoy histocompatibility complex Class II antigens.

17. A method for determining the presence of anti-HLA IgG antibodies with specificity for MHC class I or class II antigens comprising: detecting the ratio of serum reactivity to B-cells versus T-cells in the presence of DTT, wherein IgG antibodies against both class I and class II antigens are considered present if DTT-treated serum reacted against greater than 10% of both T and B cells and the B cell reactivity exceeds the T cell reactivity by at least two-fold.

18. A method for determining the presence of anti-HLA IgG antibodies ith specificity for MHC class I or class II antigens comprising: detecting the ratio of serum reactivity to B-cells versus T-cells in the presence of DTT, wherein IgG antibodies against class II antigens are considered present if DTT-treated serum reacted against greater than 10% of B cells but not T cells.

19. A method for predicting whether or not a transplant recipient is likely to reject a tissue allograft comprising detection of IgG anti-HLA DR antibodies in the serum of the recipient wherein detection of such antibodies indicates a recipient likely to reject a tissue allograft.

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